REMARKS

This application has been reviewed in light of the Office Action dated August 26, 2003. Claims 1-3, 5-9, 13-15, 17-19, 21, 23, 24, 28-31, 34, 35, 39-42, 45, 46, and 48-50 are pending in this application. Claims 10, 11, 25, 26, 36, 37, and 47 have been canceled, without prejudice or disclaimer of subject matter. Claims 1, 8, 13-15, 17-19, 23, 24, 28, 29, 31, 34, 39, 40, 42, 45, 48, and 49 have been amended to define still more clearly what Applicants regard as their invention. Claims 1, 13, 23, 28, 34, 39, 45, and 48 are in independent form. Favorable reconsideration is requested.

The Examiner objected to Claim 48 due to the double recitation of the correcting step in the claim. Applicants have eliminated the redundancy and respectfully request withdrawal of the objection.

The Office Action rejected Claims 1-33 and 45-51 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,270,187 (Murcia et al.) and rejected Claims 34-37 and 39-42 under U.S.C. § 103(a) as being obvious from Murcia et al. in view of U.S. Patent No. 5,581,284 (Hermanson). Applicants respectfully traverse these rejections.

Applicants submit that amended independent Claims 1, 13, 23, 28, 34, 39, 45, and 48, together with the remaining claims dependent thereon, are patentably distinct from the cited prior art at least for the following reasons.

The aspect of the present invention set forth in Claim 1 is a recording apparatus that includes a recording head having a plurality of recording elements for forming a color image on a recording material. The recording apparatus also includes a recording head driving means for driving the recording elements of the recording head in accordance with image data to form

an image on the recording material, and a plurality of supplementing means for effecting supplementations, in different manners, for supplementing defects in a recorded image resulting from a non-operating recording element of the recording elements. A control means of the apparatus selectively operates the plurality of supplementing means depending on an image to be printed to effect the supplementation.

One of the notable features of Claim 1 is that the control means selectively operates the plurality of supplementing means depending on the image to be printed.

Murcia et al., as understood by Applicants, relates to a method and apparatus for hiding errors in single-pass incremental printing. The Office Action at page 4 states that "[i]t is noted that the claim [Claim 1] does not recite that the plurality of supplementing means depending on the image to be printed as noted by the Applicant." Applicants have amended Claim 1 to clarify this point. The Office Action at page 2 states that Murcia et al. "discloses every element of the instant claimed invention including different operation approaches by supplementing ink for one of the failed nozzles" and states that the reassigning means, as shown in Figure 8 (reference numeral 62) of Murcia et al., and also the Abstract, provides support for this assertion. Applicants note that in Murcia et al., the specification at column 14, lines 16-20, with reference to Figure 8, describes the reassigning means as being used to modify a preliminary approximation of an image within the print-masking stage. Applicants submit that nothing has been found in this section, or elsewhere in Murcia et al., that would teach or suggest a control means that selectively operates the plurality of supplementing means depending on the images to be printed, as recited in Claim 1.

Applicants further note that Murcia et al. discusses several different methods to

compensate for nozzle failure. For example, the "Composite-Black Substitution" method compensates for the failed nozzle by substituting the data printed in composite black (see column 9, lines 11-56). The "Plural-Common-Base-Color-Printhead Substitution" method compensates for the failed nozzle by substituting the data printed by using other color printheads that print the same base color (see column 9, line 57, to column 10, line 8). Applicants submit, however, that these methods are selected based on the color to be printed by the failed nozzle. This does not suggest a control means as recited in Claim 1, which selectively operates the plurality of supplementing means depending on an image to be printed.

Accordingly, at least for the reasons described above, Applicants submit that Claim 1 is patentable over Murcia et al.

Independent Claim 13 includes a similar feature of effecting control of the forming of a color image depending on an image to be printed as recited in Claim 1, and therefore Claim 13 is patentable over Murcia et al. for the same reasons as discussed above in regard to Claim 1.

Claims 23 and 28 are apparatus and method claims, respectively, that recite effecting supplementation recording with ink having a color different from the color to be printed by a non-operating recording element and having a lightness similar to that of the color to be printed by the non-operating recording element, for a recording position which is to be recorded by the non-operating recording element. Applicants submit that Murcia et al. does not teach or suggest this feature. The Examiner stated at page 4 of the Office Action that Murcia et al. "suggests effecting the plurality of supplementing recording with a different color of the non-operating and with the same lightness," asserting that "composite black (CMY) for solid black

both exhibit similar lightness." The amendment to Claims 23 and 28 makes it clear that the recording apparatus uses ink having a different color and similar lightness. In contrast, the composite black as used in Murcia et al. is a mixture of inks having different colors and different lightnesses.

Claims 45 and 48 are apparatus and method claims, respectively, that recite performing supplemental printing by using a recording element that is adjacent to a failed nozzle. These claims include the feature of a generating means, for generating driving data, indicative of actuation or non-actuation, for driving the recording elements corresponding thereto on the basis of multi-value image data corrected by a correcting means. In contrast, in Murcia et al., Figure 3 shows that the data corresponding to the driving data are printed by another nozzle. Applicants submit that at least for this reason, Claims 45 and 48 are patentable over Murcia et al.

Claims 34 and 39 are apparatus and method claims, respectively, that recite effecting supplementation recording with a recording element for black color recording, for a recording position corresponding to a non-operating recording element among the recording elements for non-black color recording. The Office Action at page 5 states that Hermanson teaches the feature of "[replacing] missing cyan or magenta droplets . . . by a black ink droplet". Applicants submit, however, that the black print portion not printed by the failed nozzle is compensated by a black color provided by mixing several non-black colors together, and nothing in Hermanson would teach or suggest the feature of effecting supplementation recording with a recording element for black color recording, for a recording position corresponding to a

non-operating recording element among the recording elements for non-black color recording, as recited in Claims 34 and 39. Accordingly, Applicants submit that at least for this reason, Claims 34 and 39 are patentable over Murcia et al. and Hermanson, taken separately or in any proper combination (if any).

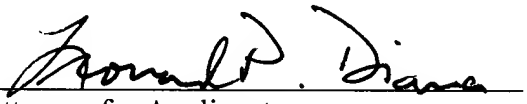
The other rejected claims in this application depend from one or another of the independent claims discussed above, and, therefore, are submitted to be patentable for at least the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

This Amendment After Final Action is believed to place this application in condition for allowance and, therefore, its entry is believed proper under 37 C.F.R. § 1.116. Accordingly, entry of this Amendment After Final Action, as an earnest effort to advance prosecution and reduce the number of issues, is respectfully requested. Should the Examiner believe that issues remain outstanding, it is respectfully requested that the Examiner contact Applicants' undersigned attorney in an effort to resolve such issues and advance the case to issue.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

Respectfully submitted,



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